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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,721	01/10/2001	Ursula Murschall	00/001 MFE	8369

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ProPat, L.L.C.  
Attention: Gregory N. Clements  
2912 Crosby Road  
Charlotte, NC 28211

EXAMINER
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UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 04/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/757,721

Applicant(s)

MURSCHALL ET AL.

Examiner

Nikolas J. Uhlir

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This office action is in response to the amendment/request for continued examination dated 1/22/2004. Claims 17 are pending.

#### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-4, 6-12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer et al. (US5955181) in view of Oishi et al. (US5936048) and Rogers et al. (US5804626).

4. Claim 1 requires a transparent polyester film comprising: at least one flame retardant which is soluble in polyester, wherein said at least one flame retardant, as dispersed by component masterbatch, is fed directly by an extruder during production of the film, wherein said masterbatch had previously been dried by gradual heating at sub atmospheric pressure, with stirring; and a polyester; wherein said transparent polyester film does not embrittle when exposed to temperatures of 100<sup>0</sup> C for 100 hours.

5. The limitation "where said at least one flame retardant, as dispersed component of a masterbatch, is fed directly by an extruder during the production of the film, wherein said masterbatch had been previously dried by gradual heating at subatomic pressure, with stirring" in claim 1, is a process limitation in a product claim does not appear to be further limiting in so far as the structure of the product is concerned. Even though product claims are limited by and defined by the process, determination of patentability is based on the product

Art Unit: 1773

itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In the instant case, the examiner takes the position that the combination of Peiffer with Oishi and Rogers results in a product that is the same as that instantly claimed although it was made via a different process, as the product of Peiffer as modified by Oishi and Rogers results in a transparent biaxially oriented polyester film containing the same components in the same amounts as claimed by the applicant, as will be shown below.

6. Regarding the limitations of claim 1, Peiffer teaches a transparent, biaxially oriented heat sealable polyester film, wherein the film has at least one base layer and at least one outer layer (column 3, lines 45-50 and example 4).

7. Peiffer does not teach the soluble flame retardant or the embrittlement requirements of claim 1. However, it is noted that Peiffer does teach that the base and outer layers may contain conventional additives, including but not limited to phosphorous based compounds (column 6, lines 49-54)

8. Bearing the above in mind, Oishi teaches a method for preparing a modified polymer resin (title). These polymer resins include polyester such as polyethylene terephthalate (Column 17, lines 43-45). Oishi also teaches that in addition to a modified resin additive, an additive such as dimethyl-methylphosphonate (DMMP) may be added to a resin to provide that resin with

Art Unit: 1773

flame retardant properties (column 21 lines 4-11). Typically this flame retardant is added in an amount of 5-40% by weight (Column 23 lines 47-48).

9. Therefore it would have been obvious to one with ordinary skill in the art to add a 5-40% of a flame retardant such as DMMP as taught by Oishi et al. to the polyester film of Peiffer.

10. One would have been motivated to make this modification due to the teaching in Peiffer that phosphorous based additives can be added to the film and the teaching in Oishi that introducing DMMP (a phosphorous based flame retardant) into a polyester increases its flame resistance.

11. In the instant specification, DMMP is listed as a flame retardant that is soluble in polyesters. Thus, the examiner takes the position that the limitations regarding the flame retardant in claim 1 (i.e. solubility in polyester) are met when DMMP is added to the PET film of Murschall et al.

12. However, Peiffer as modified by Oishi still fails to teach the embrittlement requirement of claim 1.

13. With respect to this deficiency, Rogers et al. teaches a polyester composition that comprises 95-99.90% by weight of a polyester, and 0.1-5.0% by weight of one or more polymeric carbodiimides (column 2, lines 34-50). Rogers et al. teaches that the carbodiimide acts as a hydrolysis stabilizer, which prevents the catalytic breakdown of polyesters at high temperature (column 7, lines 43-49). In a specific embodiment, Rogers et al. manufactures a PET film that contains 2% by weight of a carbodiimide known as Staboxal M (2, 2', 6,6'-tetraisopropyldiphenyl carbodiimide). This PET film, when exposed to

Art Unit: 1773

temperatures of 121<sup>0</sup> C for 9 days maintained at least 50% of its initial tensile strength (see examples). The examiner interprets this retention of tensile strength as an indicator that the PET film of Rogers et al. has not "embrittled" after 9 days at a temperature over 100<sup>0</sup> C.

14. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to add 0.1-5% by weight of a hydrolysis stabilizer as taught by Rogers to the polyester film taught by Peiffer as modified by Oishi.

15. One would have been motivated to make this modification in view of the fact that the polyester film of Peiffer is heat sealed at relatively high (110<sup>0</sup>C) temperature and the teaching in Rogers that adding a hydrolysis stabilizer prevent catalytic breakdown of polyesters at high temperature.

16. The examiner takes the position that the applicant's requirement in claim 1 of a polyester that does not embrittle after 100 hours at 1000 C is met by the combination of Peiffer with Oishi and Rogers. This is due to the fact that Rogers et al. specifically teaches that when a hydrolysis stabilizer is utilized in a PET film, the film retains at least 50% of its mechanical strength after 9 days (216 hours) at 121<sup>0</sup> C.

17. Claim 2 is met as set forth above for claim 1.

18. The limitations of claim 3 further limit the process limitations in claim 1.

Thus, the limitations of claim 3 are process limitation in a product claim and do not appear to be further limiting in so far as the structure of the product is concerned. As stated above at section 5 of this office action, then examiner

Art Unit: 1773

maintains that the combination of Peiffer with Oishi and Rogers results in a product that is the same as that instantly claimed although it was made by a different process. This is in light of the fact that this combination of references results in a product that is made of the same materials in the same amounts as that instantly claimed, and exhibits high embrittlement resistance, as discussed above at sections 13-17.

19. Claim 4 is met as set forth above; as DMMP is an organic phosphorous based flame retardant.

20. Regarding claim 6, wherein the applicant requires the film to comprise 0.5-30.0% by weight of a flame retardant. This limitation is met as set forth above for claim 1.

21. Regarding the limitations of claim 7, which requires the film to comprise 0.1-1.0% by weight of a hydrolysis stabilizer. This limitation is met as set forth above for claim 1, as Rogers et al. clearly teaches that 0.1-5% by weight of a hydrolysis stabilizer should be added to polyesters. As 0.1 specifically falls within the range specified by the applicant in claim 7, this limitation is met.

22. Regarding the limitations of claim 8, wherein the applicant requires the polyester film to have two layers comprising a base and at least one outer layer. This limitation is met as set forth above, as Peiffer explicitly teaches the formation of a base layer and an outer layer.

23. Regarding claims 9-12, which require that the outer layer of the polyester film of claim 8 contain .5-30% by weight of a flame retardant, and 0.1-5% by weight of a hydrolysis stabilizer in the outer layer. Peiffer teaches that the

Art Unit: 1773

additives can be added to the base and the outer layers (column 6, lines 49-51).

The teachings of Oishi and Rogers are relied on as set forth above.

24. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add 5-40% of a flame retardant such as DMMP as taught by Oishi et al. and 0.1-5% by weight of a hydrolysis stabilizer as taught by Rogers to the outer layer of the polyester film of Peiffer.

25. One would have been motivated to make these additions for the reasons set forth above for each component and in view of the teaching in Peiffer that the additives can be added to both the base and outer layers.

26. Regarding the limitations of claims 14-17, wherein the applicant requires the polyester film of claim 1 to exhibit various optical properties. The examiner takes the position that these requirements are met by the combination of Peiffer with Oishi and Rogers, as this combination results in a polyester film comprising the same components in the same ratios as that of the instantly claimed invention. Further, Peiffer teaches examples that expressly meet the claimed gloss (i.e. example 4), and teaches that the "gloss and haze of the film have been significantly improved" (column 8, lines 29-33).

27. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer as modified by Oishi and Rogers as applied to claims 1-4, 6-12, and 14-17 above, and further in view of Murschall (DE19630599).

28. Peiffer as modified by Oishi and Rogers as applied to claims 1-3, 5-12, and 14-17 above fails to teach the specific type of hydrolysis stabilizers required by claim 5 and the recycled material requirement of claim 13.



Art Unit: 1773

29. However, Murschall et al. teaches that antioxidants such as sterically hindered phenols or carbodiimide are suitably added to polyester compositions (page 3, table). These additives exhibit both antioxidant and hydrolysis stabilizing qualities that prevent the degradation of the polymer (page 3, lines 5-10 and table).

30. Therefore it would have been obvious to one with ordinary skill in the art to utilize a sterically hindered phenol as taught by Murschall as the hydrolysis stabilizer in Peiffer as modified by Oishi and Rogers, as the prior art recognizes the equivalency of Sterically hindered phenols and carbodiimide as hydrolysis stabilizer in polyesters.

31. Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. *In Re Fount* 213 USPQ 532 (CCPA 1982); *In Re Siebentritt* 152 USPQ 618 (CCPA 1967); *Grover Tank & Mfg. Co. Inc V. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

32. Further, Murschall teaches that transparent polyester compositions can be made from recycled material (page 5, lines 23-25).

33. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilized recycled material as taught by Murschall in the polyester film taught by Peiffer as modified by Oishi and Rogers.

34. One would have been motivated to make this modification for a variety of reasons, such as the environmental benefits that would be obtained from using recycled material.

***Response to Arguments***

35. Applicant's arguments filed 1/22/2004 have been fully considered but they are not persuasive. First, applicant's arguments with respect to the requirement that the polyester film be biaxially oriented are moot in view of the new grounds of rejection. Second, applicant's argument of unexpected results with respect to the yellowness of the film is not persuasive for the following reasons: 1) The argument is not commensurate in scope with the claims, as yellowness is not required by all of the instant claims; 2) Even if the argument were commensurate in scope, it would not be persuasive because applicant has provided no data establishing that the result is truly unexpected and not encountered in the prior art. Merely arguing that a result is unexpected cannot be considered persuasive unless supported by a conclusive showing to that effect.

36. All of the applicant's remaining arguments are addressed by the reasoning set forth in section 35. If applicant wishes to discuss this case and possible methods of more firmly establishing the argument of unexpected results, applicant's representatives are invited to contact the examiner at their convenience.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 571-272-1517. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on 571-272-1516. The

Art Unit: 1773

fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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